

April 3, 2001

Water Quality Certificate # 2001-001

Robert Levesque
Town of Durham
15 Newmarket Road
Durham, NH 03824

RE: Section 401 Water Quality Certification for Town of Durham withdrawal at Lamprey River, Durham, New Hampshire, Water Quality Certificate File # 2001-001, Wetlands Bureau Permit #2000-00506.

A. INTRODUCTION

The above-referenced project (the Project) at Durham consists of modifications to an existing pump station and installation of new force main piping for transfer of water from the Lamprey River in the Wiswall Dam impoundment to the Durham public water system. The purpose of the Project is to improve the operation of the existing raw water supply system from the Lamprey River to the Durham Water Treatment Plant by adding a direct connection to the plant. The addition of a direct connection eliminates the current practice of discharging raw water from the Lamprey River to the Oyster River approximately eight thousand feet above the water treatment plant intake. This will allow more efficient use of the available water resources, especially during drought conditions. In addition to constructing the pipe connection between the Lamprey River and the water treatment plant, the recently prepared Water Resources Management Plan will be implemented to improve management of the available water sources for Durham public water supply. A significant component of the Plan will be the management of water supply demand during periods of limited surface water availability due to drought conditions. The Project is further described in the NHDES Wetlands Bureau file #2000-00506 and the Town of Durham/ University of New Hampshire Water Resources Management Plan dated March, 2000 - Revised July, 2000, on file with the NHDES Water Supply Engineering Bureau.

The Town of Durham (the Applicant) has applied for a Wetlands permit under State of New Hampshire Wetland Rule.

B. STATEMENT OF FACTS AND LAW

1. The Corps of Engineers has issued a State of New Hampshire Programmatic General Permit under under Section 404 of the federal Clean Water Act (The Act) (33 U.S.C. 1344) that allows permits issued under State of New Hampshire Wetland to serve as a federal permit under Section 404.

2. Section 401 of the Act requires state certification that construction and operation of the Project will comply with Water Quality Standards before a federal permit may be issued for all projects that may result in a discharge to waters of the United States. To implement this provision of the Act, DES has adopted Section 401 water quality certification rules, at Env-Ws

451-455 under the authority of RSA 485-A:6, VII.

3. Env-Ws 1700, Surface Water Quality Regulations, effective December 3, 1999, fulfills the requirements of Section 401 of the Act that New Hampshire adopt water quality standards consistent with the provisions of the Act.

4. Env-Ws 452.02 defines a discharge as any addition of pollutants to the surface waters of the state, or release of water which alters the physical, chemical or biological condition of surface waters of the state.

5. Env-Ws 1702.18 defines discharge as:

(1) The addition, introduction, leaking, spilling, or emitting of a pollutant to surface waters, either directly or indirectly through the groundwater, whether done intentionally, unintentionally, negligently, or otherwise; or

(2) The placing of a pollutant in a location where the pollutant is likely to enter surface waters.

6. Env-Ws 1702.46 defines surface waters of the state as “perennial and seasonal streams, lakes, ponds and tidal waters within the jurisdiction of the state, including all streams, lakes, or ponds bordering on the state marshes, water courses and other bodies of water, natural or artificial.” The term includes wetlands.

7. Env-Ws 1701.02 provides that the water quality standards “shall apply to any person who causes point or nonpoint source discharge(s) of pollutants to surface waters, or who undertakes hydrologic modifications, such as dam construction or water withdrawals, or who undertakes any other activity that affects the beneficial uses of the level of water quality of surface waters.”

8. Env-Ws 1703.01, Water use Classifications, provides that:

(b) All surface waters shall be restored to meet the water quality criteria for their designated classification including existing and designated uses, and to maintain the chemical, physical, and biological integrity of surface waters

(c) All surface waters shall provide, wherever attainable, for the protection and propagation of fish, shellfish and wildlife, and for recreation in and on the surface waters.

(d) Unless the flows are caused by naturally occurring conditions, surface water quantity shall be maintained at levels adequate to protect existing and designated uses.

9. Env-Ws 1703.19, Biological and Aquatic Community Integrity, provides that:

“(a) The surface waters shall support and maintain a balanced, integrated and adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of similar natural habitats of a region.

(b) Differences from naturally occurring conditions shall be limited to non-detrimental differences in community structure and function.”

10. Env-Ws 455.02(c) provides that a water quality certificate may only be issued if construction or operation of the project will not violate surface water quality standards.
11. The wetlands adjacent to the Project, including the wetlands subject to dredge and fill, are surface waters of the state under Env-Ws 1702.46.
12. Construction activity in a wetland constitutes a discharge under the definitions of Env-Ws 1702.18(b) and Env-Ws 452.02.
13. Operation of the Project involves water withdrawal from the Lamprey River at the existing Lamprey River Pump Station intake in the impoundment upstream of the Wiswall Dam.
14. The Lamprey River or portions of the river may not meet the biological integrity standard of Env-Ws 1703.19 with respect to fish species. US Fish & Wildlife Service analysis of fish survey data collected by NH Fish & Game Department and DES indicates that fish species, composition, diversity, and functional organization may be different from that of similar natural habitats in the coastal region (reference: Memo from Vern Lang, US Fish & Wildlife Service to Paul Currier, DES, dated February 16, 2001, titled "Draft Water Quality Certification, Town of Durham", on file at DES).
15. Published studies have established a possible link between alteration of stream flows and changes in fish species, composition, diversity, and functional organization. The contribution of future Project operations, if any, to detrimental differences from naturally occurring fish species, composition, diversity, and functional organization has not been determined. There is a need for further study to establish whether or not the biological integrity standard for fish is met and to understand reasons for any detrimental differences from naturally occurring conditions.

C. FINDINGS

1. Construction and operation of the Project requires Water Quality Certification under Section 401 of the act and Env-Ws 451.02.
2. Operation of the Project diverts natural flow from the Lamprey River, which may result in alteration of flows downstream of the dam.
3. When river flow during the summer season at the Packers Falls gaging station is less than 13 cubic feet per second (cfs), which is the estimated summer seasonal river flow equaled or exceeded ninety percent of the time, the maintenance of flow below the Wiswall Dam equal to

inflow is not expected to have a significant effect on biological and aquatic community integrity.

4. When river flow during the summer season at the Packers Falls gaging station is between 21 cfs, which is the estimated summer seasonal river flow equaled or exceeded eighty percent of the time, and 13 cfs the maintenance of flow below the Wiswall Dam at approximately 98% of inflow, or inflow less .4 cfs, is not expected to have a significant effect on biological and aquatic community integrity.

5. When river flow during the summer season at the Packers Falls gaging station is between 45 cfs, which is the estimated summer seasonal river flow equaled or exceeded sixty percent of the time, and 21 cfs the maintenance of flow below the Wiswall Dam at approximately 96% of inflow, or inflow less 1.8 cfs, is not expected to have a significant effect on biological and community integrity.

6. Limiting drawdown of the Wiswall Dam impoundment to no more than six inches below the crest elevation of the dam will support the aquatic life designated use in the impoundment.

D. WATER QUALITY CERTIFICATION CONDITIONS

1. When river flow at the Packers Falls gaging station is between 45 and 21 cfs, outflow from the Wiswall dam shall be maintained at no less than inflow minus 1.8 cfs. When river flow at the Packers Falls gaging station is between 21 and 13 cfs, outflow from the Wiswall dam shall be maintained at no less than inflow minus .4 cfs. When river flow at the Packers Falls gaging station is less than 13 cfs, outflow from the Wiswall dam shall be maintained equal to inflow.

2. The pool elevation in the Wiswall Dam impoundment shall be drawn down no more than 0.5 inches in any 24-hour period. The maximum drawdown of the pool elevation in the impoundment shall be six inches below the crest elevation of the dam.

3. If an emergency exists which affects public health and safety and requires operation of the Project or the dam, adherence to conditions 1 and 2 is not required. The Applicant shall maintain records of Project operations during emergency conditions including times of beginning and end of emergency conditions, reasons for the emergency, and the name and office of the public official who declared the emergency. Within 60 days of the end of an emergency the Applicant shall file with DES a letter report describing the times and amounts of water withdrawal under the emergency, causes of the emergency, and, unless the emergency was caused by one-time, non-recurring circumstances such as fire or a contamination event, detailing specific steps that will be taken to avoid recurrence of emergency conditions."

4. Before the Project is operated when river flow at the Packers Falls gage is less than 45 cubic feet per second, the Applicant shall submit to DES for approval, receive approval, and implement a plan to measure or estimate outflow from the Wiswall dam and inflow to the impoundment.

5. Before the Project is operated when river flow at the Packers Falls gage is less than 13 cfs the Applicant shall submit to DES for approval, receive approval, and implement a plan to

maintain outflow equal to inflow during periods of operation when river flow is below 13 cfs. The plan shall include details of measurement methods for inflow, and a detailed plan of operation for the Wiswall Dam gates to maintain outflow equal to inflow.

6. The Applicant shall maintain records of the operation of the pump station, including dates and times of operation, and the pumping flow rate during Project operation.
7. The Applicant may operate the pump station for up to 1.5 hours each week to prevent stagnation of water in the force main, irrespective of river flow.
8. The Applicant shall maintain daily records of the pool elevation in the Wiswall Dam impoundment during Project operation, and daily records of inflow to the Wiswall Dam impoundment and outflow from the dam.
9. The Applicant shall make the records maintained in 3, 5, and 6 above available to DES upon request.
10. The terms and conditions of this Water Quality Certification may be amended and additional terms and conditions may be added by DES to ensure compliance with Water Quality Standards, after notice to the Applicant and opportunity for hearing.

E. WATER QUALITY CERTIFICATION APPROVAL

Based on the above determinations and conditions, construction and operation of the Project will not violate surface water quality standards, and DES hereby issues Water Quality Certification under Section 401 of the Act for the Project, subject to the above conditions.

F. APPEAL

If you are aggrieved by this decision, you may appeal the decision to the Water Council. Any appeal must be filed within 30 days of the date of this decision, and must conform to the requirements of Env-Wc 200. Inquires regarding appeal procedures should be directed to Jim Ballentine, DES Council Appeals Clerk, 6 Hazen Drive, PO Box 95, Concord, NH 03302-0095; telephone (603) 271-6072.

Paul Currier, Administrator
DES Water Division, Watershed Management Bureau

cc: Harry Stewart, DES
Wayne Ives, DES
Bob Mann, DES

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Bill Ingham, Fish & Game
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Ralph Abele, EPA
Judith Spang, Lamprey River Local Advisory Committee